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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,721	07/28/2003	Yo-Hong Lee	TAIE 196	7085

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EXAMINER

WAMBACH, MARGARET R

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 04/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,721

Applicant(s)

LEE, YO-HONG

Examiner

Margaret R Wambach

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claims 8 and 9 are objected to because of the following informalities: "vibration detector" has already been recited in claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are replete with terms which are either lacking antecedent basis or which create confusion with regard to antecedent basis for the claim language. For example, in claim 1, line 7, "a counting circuit" was already recited on line 5, in claim 3, line 6, "a signal detection circuit" was already recited in claim 1, lines 7 and 8, in claim 3, line 7, "the vibration detection signals" lack a clear antecedent basis, in claim 4, "a signal comparator" should presumably be "the comparator" since it refers to the comparator of claim 3, line 9. Similarly, applicant should choose consistent language for all other references to the comparator in the claim language. In claim 5, "the reference voltage terminal of the comparator" does not have a clear antecedent basis. In claim 6, "the voltage divider" lacks a clear antecedent basis (the voltage divider is first recited in claim 4, not claim 3.) Claims 7-10 recite "a signal amplifier" but that element was already recited in claim 1.

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In claims 3 and 4, "comparator having variable reference voltage" is indefinite insofar the phrase is ungrammatical and applicant's intended meaning has not been distinctly claimed. Similarly, the parenthetical term "(reference voltage terminal)" in claim 4 is indefinite because it is unclear how the term in parentheses relates to the other circuit elements and applicant's intended meaning has not been distinctly claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Darley et al. (hereafter "Darley") and Chen et al (hereafter "Chen")

The following rejection of the claims under 35 USC 103 is made in accordance of the examiner's best interpretation of the indefinite claim language in light of the foregoing rejection under 35 USC 112.

Referring to Figure 1 and as recited in claim 1, Darley teaches a main body (100), a printed circuit board (mentioned in the abstract), and a counting circuit being formed of a signal amplifier, a signal detection circuit and a processor (column 6, lines 17-50 disclose that circuitry within the housing calculates a person's pace. Insofar as "pace" means the number of footfalls (or units of distance) per a unit of time, circuitry within the housing of Darley has an intrinsic counting property and thus constitutes a counting circuit, which counts and, accordingly, detects signals representing either

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footfalls or the passage of units of distance. Darley also discloses that the housing may include "an amplifier" and a "processor". Further, the receiver (column 6, line 29) of Darley constitutes a signal detection circuit.)

With further reference to claim 1, Darley also teaches a vibration detector (the accelerometer, referenced in the abstract would detect vibrations insofar as it would detect any motion (column 4, lines 21-25) which is installed on the printed circuit board (column 8, line 55) An accelerometer intrinsically includes a sensor or "a sensor pad" that, with other circuit elements, create a signal responsive to an accelerating force. Column 4 lines 32-35 state that the accelerometer (and thus its sensor pad) is perpendicular to the acceleration sensing axis (118) (coincident to the direction of motion insofar as 118 is depicted in Figure 2 as being straight ahead of the wearer) and a display unit (column 6, lines 48-50, for instance).

The difference between Darley and the invention as recited in claim 1 lies in the fact that Darley only specifically mentions that the accelerometer is installed on the circuit board; it does not state that a display unit is also installed on the circuit board as recited in claim 1.

However, a display installed on a circuit board is taught by Chen. Chen teaches an LED display which is installed on a circuit board.

To produce the structure recited in claim 1, Darley would have to be modified to install its LED display (column 6, line 53) on its circuit board as taught by Chen. One motivation for such a modification is that a circuit board provides the convenience of having both elements fixed in place in a structure which would be subject to much

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jostling and abrupt motion that could cause breakage if the display was not fastened in place and would also eliminate the need for a transmitter/receiver that would be necessary if the display was fastened instead to the wearer's wrist.

Allowable Subject Matter

Claims 2-10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sham et al teaches circuitry for a structure including a pedometer which incorporates similar elements as the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret R Wambach whose telephone number is (571)272- 1756. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday 6am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571)272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Margaret R Wambach
Primary Examiner
Art Unit 2816

mrw